

## P A T E N T COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner  
 US Department of Commerce  
 United States Patent and Trademark  
 Office, PCT  
 2011 South Clark Place Room  
 CP2/5C24  
 Arlington, VA 22202  
 ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

<b>Date of mailing</b> (day/month/year) 01 March 2001 (01.03.01)	<b>Applicant's or agent's file reference</b> 00537-190WO1
<b>International application No.</b> PCT/US00/15396	<b>Priority date</b> (day/month/year) 04 June 1999 (04.06.99)
<b>International filing date</b> (day/month/year) 05 June 2000 (05.06.00)	
<b>Applicant</b> SADAT-AALAE, Dean et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

04 January 2001 (04.01.01)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<b>The International Bureau of WIPO</b> 34, chemin des Colombettes 1211 Geneva 20, Switzerland	<b>Authorized officer</b>  Antonia Muller
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

# PATENT COOPERATION TREATY

PCT/US00/15396

JRG  
YRT

From the INTERNATIONAL BUREAU

PCT

## NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

To:

TSAO, Rocky, Y.  
Fish & Richardson P.C.  
225 Franklin Street  
Boston, MA 02110-2804  
ETATS-UNIS D'AMERIQUE

CAS

Date of mailing (day/month/year) 14 December 2000 (14.12.00)		IMPORTANT NOTICE	
Applicant's or agent's file reference 00537-190WO1			
International application No. PCT/US00/15396	International filing date (day/month/year) 05 June 2000 (05.06.00)	Priority date (day/month/year) 04 June 1999 (04.06.99)	
Applicant BIOMEASURE INCORPORATED et al			

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:  
AU, KP, KR, MZ, US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:  
AE, AL, AM, AP, AT, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EA, EE, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, OA, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW  
The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).
3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on 14 December 2000 (14.12.00) under No. WO 00/75186

### REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

### REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

RECEIVED

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer J. Zahra	DEC 26 2000
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38	FISH & RICHARDSON BOSTON OFFICE

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

by fax and post

To:

TSAO, Y. Rocky  
FISH & RICHARDSON P.C.  
225 Franklin Street  
Boston, Massachusetts 02110-2804  
ETATS-UNIS D'AMERIQUE

RECEIVED

SEP 21 2001

FISH & RICHARDSON, P.C.  
BOSTON OFFICE

PCT

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT

(PCT Rule 71.1)

#001-617-542-8906

Date of mailing  
(day/month/year)

17.09.2001

Applicant's or agent's file reference  
00537-19WO1

IMPORTANT NOTIFICATION

International application No.  
PCT/US00/15396

International filing date (day/month/year)  
05/06/2000

Priority date (day/month/year)  
04/06/1999

Applicant

SOCIETE DE CONSEILS DE RECHERCHES ET.... et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/

European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

\* No Docketing Required  
Reviewed By Practice Systems  
Initialed by Administrative Officer

Neumann, M

Tel. +49 89 2399-7351



# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>00537-190WO1</b>	<div style="display: flex; justify-content: space-between;"> <div> <b>FOR FURTHER ACTION</b> </div> <div>           See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)         </div> </div>	
International application No. <b>PCT/US00/15396</b>	International filing date (day/month/year) <b>05/06/2000</b>	Priority date (day/month/year) <b>04/06/1999</b>
International Patent Classification (IPC) or national classification and IPC <b>C07K14/655</b>		
Applicant <b>SOCIETE DE CONSEILS DE RECHERCHES ET.... et al.</b>		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>7</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>      </u> sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input checked="" type="checkbox"/> Certain observations on the international application</li> </ul>		
Date of submission of the demand  <b>04/01/2001</b>	Date of completion of this report  <b>17.09.2001</b>	
Name and mailing address of the international preliminary examining authority:  <div style="display: flex; align-items: center;"> <div>             European Patent Office              D-80298 Munich              Tel. +49 89 2399 - 0 Tx: 523656 epmu d              Fax: +49 89 2399 - 4465           </div> </div>	Authorized officer  <b>Kronester-Frei, A</b>  Telephone No. +49 89 2399 8555	



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/15396

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

### Description, pages:

1-52 as originally filed

### Claims, No.:

1-26 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/US00/15396

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.
- ☒ claims Nos. 26.

because:

- ☒ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):  
**see separate sheet**
  - ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
  - ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
  - ☐ no international search report has been established for the said claims Nos. .
2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:
- ☐ the written form has not been furnished or does not comply with the standard.
  - ☐ the computer readable form has not been furnished or does not comply with the standard.

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims 1-26
	No: Claims
Inventive step (IS)	Yes: Claims
	No: Claims 1-26
Industrial applicability (IA)	Yes: Claims 1-25

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/US00/15396

No: Claims 26

2. Citations and explanations  
**see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**se separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/US00/15396

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

Claim 26 relates to subject-matter considered by this Authority to be covered by the provisions of Rule 67.1(iv) PCT. Consequently, no opinion will be formulated with respect to the industrial applicability of the subject-matter of these claims (Article 34(4)(a)(i) PCT). However the opinion given under Item V embraces the subject-matter being covered by those claims which might possibly redrafted in a subsequent European Examination Procedure.

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The following documents (D) are referred to in this communication; the numbering corresponds to the order used in the Search Report, the numbering will be adhered to in the rest of the procedure:

D1: WO-A-9405310

D2: WO-A-9303056

D3: EP-A-0478101

D4: WO-A-9925729

D5: WO-A-9851332

D6: EP-A-0127899

D7: Pept. 1996, Proc. Eur. Pept. Symp., 24th (1998), Meeting Date 1996, 483-484. Editor(s): Ramage, Robert; epton, Roger. Publisher: Mayflower Scientific, Kingswinford, Uk. (0000), , -

D8: Pept. Proc. Am. Pept. Symp., 15th (1999), Meeting Date 1997, 526-529. Editor(s): Tam, James P.; kaumaya, Pravin T. P. Publisher: Kluwer, Dordrecht, Neth. (0000), , -

D9: J. Pharmacol. Exp. Ther. (1999), 290(3), 1202-1211 (0000), , -

D10: US-A-5462926



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/15396

- D1: Peptide inhibitors of cellular adhesion having the intrapeptidic bond bridging 2 amino acids.
- D2 Improving of a biological activity of a peptide by a intrapeptidic S-S chain bridging 2 amino acids, better than the naturally occurring amino acids, lanthoinin.
- D3 Peptides having thrombospondin-like activity having a intrapeptidic s-s chain bridging 3 amino acids.
- D4 Peptides having antitumour activity having an intrapeptidic S-S chain bridging 3 amino acids.
- D5 Somatostatin and Somatostatin antagonists for treating insulin having cyclic peptidic ring structures.
- D6 Cyclic peptapeptides displaying somatostatin antagonism.
- D7: Test-System applied: Effector coupling of somatostatin receptor subtypes sst-1 and sst-2 as examined in a reconstituted system. Forskolin-stimulated cyclic adenosine monophosphate (cAMP) formation was inhibited 66% by somatostatin (SRIF-14) in CHO cells expressing somatostatin receptor 1 (sst-1) (CHO-SR1), but not sst-2, in a dose-dependent manner with an ED-50 of 1 times 10<sup>-9</sup> mol/L SRIF-14.
- D8, D9, D11: Different somatostatin analogs bridging 4 amino acids by a C-C-bond.
- D10: Neuromedin B Receptor Antagonist

2. With respect to the documents cited in the Search Report novelty of the subject-matter claimed can be acknowledged.
3. As far as the requirements of inventive step of the Neuromedin B and somatostatin receptor antagonists claimed are concerned it would appear that a person skilled in this art confronted with the problem of looking for further Neuromedin B and somatostatin receptor antagonists being useful in the treatment of various diseases (cf. page 2, line 15ff) and functioning as potent mu opioid receptor antagonists would in principle have been able to further modify the different peptidic structures as cited in D1/D2, D3/D4 or in D5/D6. However the application of an affinity test for human somatostatin subtype receptors 1 to 5 (sst1, sst2, sst3, sst4, sst5), which is determined by measuring the inhibition of [125I-Tyr11]SRIF-14 binding to CHO-K1 cells transfected with the sst receptor

subtype, seems to require particular structural features in the Neuromedin B and somatostatin receptor antagonists claimed. This test is considered as representing an additional functional feature in the product claims, which information seem to be missing until now in the claims. This test enables to take a conclusion on structural requirements which cannot be deduced in an obvious manner from the teaching of the documents D1 to D6 vis-à-vis D7.

However, without such information it would appear that the skilled person confronted with the problem of looking for further Neuromedin B and somatostatin receptor antagonists being useful in the treatment of various diseases (cf. page 2, line 15ff) and functioning as potent mu opioid receptor antagonists would have been able to deduce in an obvious manner from the teaching of D1 to D6 that further modification in the bridging structure pattern of the peptides would result in peptides which show the same activity pattern as the peptides of the prior art D1 to D6. No inventive effort is required to further modify known peptides by applying different bridging structures of to build cyclic peptides. Therefore in the absence of such feature the requirements of inventive step of the product claims and dependent subject-matter are not satisfied.

It would appear that in a subsequent possible European application a deficiency of non-unity would be made.

4. For the assessment of the present claim 26 on the question whether they are industrially applicable, no unified criteria exist in the PCT Contracting States. The patentability can also be dependent upon the formulation of the claims. The EPO, for example, does not recognize as industrially applicable the subject-matter of claims to the use of a compound in medical treatment, but may allow, however, claims to a known compound for first use in medical treatment and the use of such a compound for the manufacture of a medicament for a new medical treatment.

#### Re Item VIII


Certain observations on the international application

The sentence on page 3, line 25/26 is considered to lead to unclear subject-matter (Article 6 PCT).

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

14

Applicant's or agent's file reference 00537-190WO1		<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/15396	International filing date (day/month/year) 05/06/2000	Priority date (day/month/year) 04/06/1999	
International Patent Classification (IPC) or national classification and IPC C07K14/655			
Applicant SOCIETE DE CONSEILS DE RECHERCHES ET.... et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"><li>I <input checked="" type="checkbox"/> Basis of the report</li><li>II <input type="checkbox"/> Priority</li><li>III <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li><li>IV <input type="checkbox"/> Lack of unity of invention</li><li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li><li>VI <input type="checkbox"/> Certain documents cited</li><li>VII <input type="checkbox"/> Certain defects in the international application</li><li>VIII <input checked="" type="checkbox"/> Certain observations on the international application</li></ul>			
Date of submission of the demand  04/01/2001		Date of completion of this report  17.09.2001	
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 eprmu d Fax: +49 89 2399 - 4465		Authorized officer  Kronester-Frei, A  Telephone No. +49 89 2399 8555	



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/15396

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

### Description, pages:

1-52 as originally filed

### Claims, No.:

1-26 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/15396

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

### III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 26.

because:

☒ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):  
**see separate sheet**

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

### V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-26
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-26
Industrial applicability (IA)	Yes:	Claims	1-25

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/US00/15396

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No: Claims 26

2. Citations and explanations  
**see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:  
**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/US00/15396

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

Claim 26 relates to subject-matter considered by this Authority to be covered by the provisions of Rule 67.1(iv) PCT. Consequently, no opinion will be formulated with respect to the industrial applicability of the subject-matter of these claims (Article 34(4)(a)(i) PCT). However the opinion given under Item V embraces the subject-matter being covered by those claims which might possibly redrafted in a subsequent European Examination Procedure.

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The following documents (D) are referred to in this communication; the numbering corresponds to the order used in the Search Report, the numbering will be adhered to in the rest of the procedure:

D1: WO-A-9405310

D2: WO-A-9303056

D3: EP-A-0478101

D4: WO-A-9925729

D5: WO-A-9851332

D6: EP-A-0127899

D7: Pept. 1996, Proc. Eur. Pept. Symp., 24th (1998), Meeting Date 1996, 483-484. Editor(s): Ramage, Robert; epton, Roger. Publisher: Mayflower Scientific, Kingswinford, Uk. (0000), , -

D8: Pept. Proc. Am. Pept. Symp., 15th (1999), Meeting Date 1997, 526-529. Editor(s): Tam, James P.; kaumaya, Pravin T. P. Publisher: Kluwer, Dordrecht, Neth. (0000), , -

D9: J. Pharmacol. Exp. Ther. (1999), 290(3), 1202-1211 (0000), , -

D10: US-A-5462926

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/US00/15396

- D1: Peptide inhibitors of cellular adhesion having the intrapeptidic bond bridging 2 amino acids.
- D2: Improving of a biological activity of a peptide by a intrapeptidic S-S chain bridging 2 amino acids, better than the naturally occurring amino acids, lanthionin.
- D3: Peptides having thrombospondin-like activity having a intrapeptidic s-s chain bridging 3 amino acids.
- D4: Peptides having antitumour activity having an intrapeptidic S-S chain bridging 3 amino acids.
- D5: Somatostatin and Somatostatin antagonists for treating insulin having cyclic peptidic ring structures.
- D6: Cyclic peptapeptides displaying somatostatin antagonism.
- D7: Test-System applied: Effector coupling of somatostatin receptor subtypes sst-1 and sst-2 as examined in a reconstituted system. Forskolin-stimulated cyclic adenosine monophosphate (cAMP) formation was inhibited 66% by somatostatin (SRIF-14) in CHO cells expressing somatostatin receptor 1 (sst-1) (CHO-SR1), but not sst-2, in a dose-dependent manner with an ED-50 of 1 times 10<sup>-9</sup> mol/L SRIF-14.
- D8, D9, D11: Different somatostatin analogs bridging 4 amino acids by a C-C-bond.
- D10: Neuromedin B Receptor Antagonist

2. With respect to the documents cited in the Search Report novelty of the subject-matter claimed can be acknowledged.
3. As far as the requirements of inventive step of the Neuromedin B and somatostatin receptor antagonists claimed are concerned it would appear that a person skilled in this art confronted with the problem of looking for further Neuromedin B and somatostatin receptor antagonists being useful in the treatment of various diseases (cf. page 2, line 15ff) and functioning as potent mu opioid receptor antagonists would in principle have been able to further modify the different peptidic structures as cited in D1/D2, D3/D4 or in D5/D6. However the application of an affinity test for human somatostatin subtype receptors 1 to 5 (sst1, sst2, sst3, sst4, sst5), which is determined by measuring the inhibition of [125I-Tyr11]SRIF-14 binding to CHO-K1 cells transfected with the sst receptor



subtype, seems to require particular structural features in the Neuromedin B and somatostatin receptor antagonists claimed. This test is considered as representing an additional functional feature in the product claims, which information seem to be missing until now in the claims. This test enables to take a conclusion on structural requirements which cannot be deduced in an obvious manner from the teaching of the documents D1 to D6 vis-à-vis D7.

However, without such information it would appear that the skilled person confronted with the problem of looking for further Neuromedin B and somatostatin receptor antagonists being useful in the treatment of various diseases (cf. page 2, line 15ff) and functioning as potent mu opioid receptor antagonists would have been able to deduce in an obvious manner from the teaching of D1 to D6 that further modification in the bridging structure pattern of the peptides would result in peptides which show the same activity pattern as the peptides of the prior art D1 to D6. No inventive effort is required to further modify known peptides by applying different bridging structures of to build cyclic peptides. Therefore in the absence of such feature the requirements of inventive step of the product claims and dependent subject-matter are not satisfied.

It would appear that in a subsequent possible European application a deficiency of non-unity would be made.

4. For the assessment of the present claim 26 on the question whether they are industrially applicable, no unified criteria exist in the PCT Contracting States. The patentability can also be dependent upon the formulation of the claims. The EPO, for example, does not recognize as industrially applicable the subject-matter of claims to the use of a compound in medical treatment, but may allow, however, claims to a known compound for first use in medical treatment and the use of such a compound for the manufacture of a medicament for a new medical treatment.

#### Re Item VIII

Certain observations on the international application

The sentence on page 3, line 25/26 is considered to lead to unclear subject-matter (Article 6 PCT).